

REMARKS

Claims 3-5, 7-14, and 17-29 are pending in the present application. No claims are withdrawn from consideration. By virtue of this response, no claims have been cancelled, claims 3-5, 7, 8, 10, 12, 14, 17-19, 21, 23, and 25 have been amended to address informalities and further clarify the claimed subject matter, and no new claims have been added. Accordingly, claims 3-5, 7-14, and 17-29 are currently under consideration. Amendment and cancellation of certain claims is not to be construed as a dedication to the public of any of the subject matter of the claims as previously presented. No new matter has been added.

Interview summary

Applicant's representative extends great appreciation to the Examiner for discussing the references and claims on May 5, 2008. During the teleconference, the Examiner and Applicant's representative discussed (1) how Runnels does not disclose (a) a pad manufacturing process or (b) providing information to be used in pad design, and (2) how Applicant's claimed method could distinguish from (a) Runnels alone and (b) Runnels in view of Sonderman et al. especially if the claims were clarified to specify a method of making a pad. Applicant's representative also discussed the previous response to the non-final Office Action and how Applicant explained therein that Runnels optimizes the CMP process, but Applicant did not state or intend to state that Runnels discloses customizing a polishing pad in use by the chip manufacturer.

Rejections under 35 USC § 102

Claims 3-5, 7, 17, 18 and 25-29 were rejected under 35 USC § 102(b) as allegedly being anticipated by Runnels 6,169,931.

Runnels does not disclose a method as claimed. Runnels discusses optimizing the CMP process using pre-existing pads, not making pads based on a value of a physical or chemical property of the pad derived from one or more characteristics of a structure on a substrate. Since the claimed subject matter is drawn to a method of making a CMP pad, Runnels does not anticipate claims 3-5, 7, 17, 18, and 25-29.

Rejections under 35 USC § 103

Claims 8-14 and 19-24 were rejected under 35 USC § 103(a) as allegedly being unpatentable over Runnels 6,169,931 in view of Sonderman et al. 6,802,045.

As noted above, Runnels does not disclose making a CMP pad based on a value of a physical or chemical property of the pad derived from characteristics of a feature such as a chip on a substrate as specified in the various claims above. Sonderman et al. likewise says and suggests nothing about making a CMP pad based on a value of a physical or chemical property of the pad derived from characteristics of a feature on a substrate. Consequently, Runnels in view of Sonderman et al. does not render the rejected claims unpatentable.

Sonderman et al. is concerned with optimizing a semiconductor manufacturing process formed of many unit operations such as CMP, photolithography, etch, annealing, implant, and diffusion stages (see, e.g. Sonderman et al. 5:56-62). Sonderman et al. models effects of a change in one component on another component in another model of Sonderman et al.'s three models (see, e.g., Sonderman et al. 6:1-13, in which Sonderman provides an example of how a temperature change in equipment model 330 can affect a component that controls an etching process in the process model 320). Sonderman et al. therefore does not appear to be discussing anything regarding how to make a CMP pad and especially how to make a CMP pad based on simulated data as specified in various claims above.

Rather, Sonderman et al. is concerned with optimizing an entire manufacturing process of pre-existing components and the effects a change in e.g. temperature in one component can have in another component (see also, e.g., Sonderman et al. 8:31-36 and 8:45-48, in which Sonderman again states that the model predicts how changes to one component affect another component). While Sonderman et al. discusses sensitivity analysis at 8:44-54, Sonderman et al. discusses sensitivity analysis in the context of optimizing a very large pre-existing process that is outside the realm of making a CMP pad based on a value of one or more characteristics of a structure on a

substrate. Consequently, it does not appear that a person of ordinary skill in the field of CMP pad manufacturing would look to Sonderman et al. for guidance in making CMP pads.

In view of either or both of the remarks above that (1) Sonderman et al. does not teach or suggest making a CMP pad and therefore does not in combination with Runnels render the claimed subject matter obvious, and (2) a person of ordinary skill in making CMP pads would not look to Sonderman et al. in any event, claims 8-14 and 19-24 are patentable over Runnels in view of Sonderman et al.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to ***Deposit Account No. 03-1952*** referencing docket no. **577182000100**. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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Respectfully submitted,

Electronic Signature: /Charles D. Holland/
Charles D. Holland
Registration No.: 35,196
MORRISON & FOERSTER LLP
755 Page Mill Road
Palo Alto, California 94304-1018
(650) 813-5832